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On the Cosmological Origin of Astroparticles: New Concepts, Phenomena and Processes in galactic SMBH

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The previous theoretical studies in scope of Non-Inflationary Cosmology (NIC), regarding the program OLIMPIA and several theoretical aspects of heavy elements' synthesis [1], previously have been carried out in frame of NIC's concepts [2-6]. Recently, the theory of NIC revealed a new cosmological phenomenon concerning the possibility "gravitons' entanglement" in the Universe [7], the broad review of which together with new prediction in favor of "initial cosmic quasi-particles" – mixture of carriers of correlated fundamental physical fields in their vacuum states, has initiated another brave idea. This hypothesis is directly concerning the possibility of the original phenomenon on "the large-scale entanglement of prototypes of astroparticles in the earliest Universe". Since the generation of primary particles in the rapidly evolving earliest Universe took place in parallel with primary substantial fluctuations, the changing parameters of the initial prototypes of astroparticles should have significantly differed from those steady-state parameters, which already are experimentally confirmed as characteristic parameters of indiscernible elementary particles of each identified family. Consequently, one may state that the initial fluctuated values of the primary parameters of astroparticles in the form of Gaussian distributions have been stabilized over time nearby these experimentally confirmed values via cosmological mechanism of large-scale quantum entanglement, likely realized initially between prototypes of astroparticles. Physically it seems very realistic, that the corresponding time of "cosmological standardization process" for each family of proto-particles, similar to general statistical equilibrium process, have been extended in time. Besides still unknown physical essence of such a "stabilizing cosmological process", it seems intuitively clear that the alleged processes of NIC and Modern Physics likely required an incomparably longer period of time, than the Weinberg's hypothesis on "the first three minutes", accepted in the Modern Cosmology. Based on above mentioned, one may manifest that the discovery of new cosmological mechanisms of the creation and evolution of astroparticles should be studied more deeply and comprehensively, using the whole arsenals of Standard Model together with observational data. Of course, such a scenario at the earliest stages of the evolution of the Universe is able to reveal completely new horizons for the understanding not only the essence of cosmic objects' generation scenario, but also the essence of the occurring within them original phenomena and processes. Above all, these predictions could have advanced applications in galactic SMBH. Indeed, a quantum entangled and squeezed Bose-condensate, trapped inside the gravitational well of SMBH by means of "induced gravitational collapse" [2,3], probably could become large-scale coherent state which could turn into a more precise, transparent and efficient model for the sought-for source of high energies of galactic core, justifying the theoretical mechanism of galactic jet, previously considered in [1] in bare outlines.

References

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